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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,089	11/19/2003	David G. Converse	C-2593	7010

7590 03/31/2006

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EXAMINER

CANTELMO, GREGG

ART UNIT PAPER NUMBER

1745

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,089

Applicant(s)

CONVERSE ET AL.

Examiner

Gregg Cantelmo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. In response to the amendment received January 26, 2006:
 - a. Claim 6 is pending;
 - b. The 102 rejection of Jung is withdrawn however the 103 prior art rejection of record stands.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. the claim recites increasing or decreasing the voltage provided to the electrical storage device in response to the load transient. However it appears that the specification only discloses increasing or decreasing the voltage from the electrical storage device in response to the load transient (see page 8, line 18 through page 9, line 9). Clarification is respectfully requested.

Response to Arguments

4. Applicant's statement with respect to claim 6 has been considered but is not persuasive.

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Applicant's support on page 8, lines 9-17 is not persuasive since this disclosure at best would only support a voltage which is a multiple and not a reasonable teaching of the voltage being either a fraction or multiple voltage provided to the electrical storage device.

Again reviewing the specification appears to show support for the multiple or fractional voltage after line 17 and rather from lines 18 of page 8 through line 9 of page 9 all of which is directed to increasing or decreasing the voltage from the electrical storage device (i.e. bucking or boosting the electric storage device voltage in response to load transients).

Thus the rejection stands.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung of record, in view of U.S. Patent No. 6,737,762 (Koenig).

Jung discloses a fuel cell power plant and method of operating in Fig. 2 comprising a fuel cell stack 103 having electric power output lines, an electric storage element 101 associated with the stack, DC/DC converter 111 which is a means for providing a voltage to element 101 which is a fraction or multiple of the voltage between the output power lines. Controller 119 is a means for controlling the voltage provided to

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element 101 (Figs .1 and 2 as applied to claim 4). The primary voltage source is the fuel cell system and when load transients occur, the electric storage element 101 accounts for such transients by supplying a voltage which is a fraction or multiple of the voltage between the power output lines to account for the load transients.

The presence of the DC-DC converter in Jung provides for the same system arrangement wherein, depending upon the operation conditions applied to the converter, the voltage to/from the electric storage device can readily be increased or decreased as needed dependent upon the load conditions and in the presence of any load transients.

Koenig discloses that a DC-DC converter coupled in series with a rechargeable electric storage device can provide increased or decreased voltages to the storage device in response to load transients.

The motivation for controlling the voltage to the electric storage device in response to load transients is that it improves the power management of the power system.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Jung by operating the DC-DC converter of Jung to supply fractional or multiple voltages to the electric storage device in response to load transients since it would have improved the power management of the system.

Response to Arguments

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6. Applicant's statement with respect to claim 6 has been considered but is not persuasive.

Jung provides for a DC-DC converter 111 which is a means that is capable for providing a voltage to element 101 which is a fraction or multiple of the voltage between the output power lines.

Koenig shows that DC-DC converters coupled in series with a rechargeable electric storage device can provide increased or decreased voltages to the storage device in response to load transients.

Considering that the electric storage device of Koenig is at a voltage different from an inverter (not shown) or load, it would have been obvious to provide multiple or fractional voltage to/from the electric storage device to match the voltage levels for each device operating at a different voltage and thus improve the power management of the system.

The combination of teachings thereby obviating the need to provide a fraction or multiple of the voltage from the electric storage device to account for load transients.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

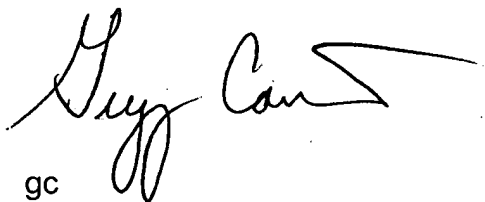
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gc

Gregg Cantelmo
Primary Examiner
Art Unit 1745

March 28, 2006